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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,482	11/28/2003	Seiichi Katou	500.43301X00	1153

20457 7590 10/02/2006

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EXAMINER

GIESY, ADAM

ART UNIT PAPER NUMBER

2627

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/722,482

Applicant(s)

KATOU ET AL.

Examiner

Adam R. Giesy

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 4 and 6 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the thin film electrodes of the optical device according to claim 2" in lines 6 and 7 of the claim. Claim 2, however encompasses all of the limitations of claim 2 plus all the limitations of claim 1. It is unclear and confusing as to which limitations of claim 2 are required in claim 5 since claim 2 includes limitations to thin film electrodes and also includes all the limitations of claim 1.

For the purposes of furthering prosecution, the Examiner will read "the thin film electrodes of the optical device according to claim 2" as "a plurality of thin film electrodes."

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (hereinafter Nakamura – US Pat. No. 6,985,424 B1).

Regarding claim 1, Nakamura discloses an optical device wherein an optical component (Figure 3a, element 9) and a plurality of light emitting elements (elements 4a and 4b) are mounted on an identical substrate (1), a level of a surface on which the optical component is mounted is different from that of a surface on which the light emitting elements are mounted by a step provided on the substrate (see Figure 3b, elements 1 and 2 – note this height difference of element 1 in contrast to element 2), at least one plane vertical to the surface on which the optical component is mounted and located on a periphery of the substrate is opened (as seen in Figures 3a and 3b – note that the edge of the semiconductor plate (1) that is nearest to the laser chip is open as displayed in both figures), a reflecting surface, a transmitting surface or a diffraction grating surface of the optical component is provided along sides generated by the step provided in said substrate (Figure 4b, element 44 – this is a transmitting surface), optical axes of the plurality of light emitting elements of which polarization axes are in parallel with each other intersect with each other on the surface (see Figure 4b – note that light beams intersect at element 44; see also Figure 5a – note the intersection of

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the laser beams), and an exit light beam of the light emitting elements is emitted from the opened plane (see Figure 3a).

Regarding claim 2, Nakamura discloses all of the limitations of claim 1 as discussed in the claim 1 rejection above and further that thin film electrodes for electrically connecting with said plurality of light emitting elements are provided on the surface on which the light emitting elements are mounted and in a range surrounded by the optical axes of the light emitting elements and an intersecting point of the optical axes (see Figure 3a, elements 33 and 34 – see also Figure 5a – note the intersection of the laser beams).

Regarding claim 5, Nakamura discloses an optical pickup comprising a light emitting element for recording/reproducing information on/from a recording medium disk (Figure 3a, elements 4a and 4b), a photo acceptance element to be a detector (5), and an optical component for conducting a detected light from the light emitting element to the photo acceptance element (9), wherein a plurality of thin film electrodes of the optical device according to claim 2 are placed at a position away from a center of the disk (33 and 34), an external wiring is directly connected to the thin film electrodes, and the external wiring is provided along an outer periphery of the disk of the optical pickup (see Figures 4a and 4c, element 42 – note that the wires (42) connect to the electrodes (pads – 33 and 34 in Figure 3a); see also Figure 6 – note the position of the optical head in relation to the optical disk as shown).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (hereinafter Nakamura – US Pat. No. 6,985,424 B1) in view of Cheong et al. (hereinafter Cheong – US Pat. No. 7,057,999 B2).

Regarding claim 3, Nakamura discloses all of the limitations of claim 1 as discussed in the claim 1 rejection above. Nakamura fails to disclose a through-hole.

Cheong discloses an optical device in which a photodetector and laser are mounted on the same substrate wherein a through-hole is formed in a part of said substrate, and a photo acceptance element for detecting an emitting light passing through said through-hole is provided (see abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical device as disclosed by Nakamura with the photodetector in the through-hole as disclosed by Cheong, the motivation being to use all available space to make the optical device smaller.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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- a. Takeda (JP 10-027374) discloses a semiconductor laser module that contains both a laser and a photodetector as well as external wiring from the chip to the optical pickup.
- b. Yonekubo (JP 10-021577) discloses an optical element that contains a laser and a photodetector that are each seated at different levels on the chip.
- c. Nakanishi et al. (US Pat. No. 6,257,772 B1) discloses a photodiode module that includes an optical fiber as well as a reflective surface and a photodetector.
- d. Setoguchi (US Pat. No. 6,467,972 B2) discloses an optical device that includes an optical fiber as well as a reflective surface and a photodetector.
- e. Itoph et al. (US Pat. No. 6,115,515) discloses an optical device mounting board with separate levels on the same surface for mounting optical elements to be used in an optical pickup.

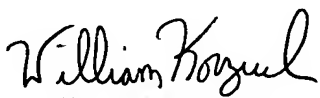
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam R. Giesy whose telephone number is (571) 272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARG 9/22/2006




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